

the designs which are pointed out as supereminently good come from abroad.

In the first round of the fight, England has gone down:

Without further comment at this moment, we give the names (or mottoes) of all, we believe, who have submitted designs, and are not mentioned in the previous lists:—

Messrs. Acollas, Paris; Aickin and Capes, W. Albon, F. C. Anderson, J. S. Austin, W. Austin, A. Beaumont, W. Bell, J. S. Bennett, J. Black, E. Blatchley, A. W. Boulnois, W. Boyle, R. Broad, B. Broadbridge, R. Brown, H. P. Burk, J. G. Crane, "C. E. G." "C. T. G." A. P. Campbell, J. Carr, J. Claringbull, J. Colahurst, J. Colson, C. C. Coote, W. R. Corson, David Cowan, M. Darnis de Culture, Paris; G. J. Darley, W. Dennis, Francis Drake, H. Duesbury, M. Dufocq, Paris; M. Dupuy, Versailles; O. C. Edwards, "E. I. C." J. Eldridge, J. Elliott, D. Erskine, W. J. Everitt, M. Theodore Faure, M. Desaint Felis and E. E. White, F. Finlay, C. Folkard, D. C. Forbes, J. Forrest, W. Freebode, L. Fürges, Crefeld; A. Garrard, William Geggie, J. Gibson, R. Gilhugbarn, C. W. Gooch, J. Goull, R. Greene, E. W. Grubb, R. S. Grubb, T. B. Guppy, Naples; J. C. Hadden, Herr Hammann, Hamburg; T. R. Hannaford, O. Hazard, R. Hardy, J. P. Harrison, Thomas Haw, S. Heulton, J. Hendrey, J. Hewitt, W. S. Hullands, G. Horton, A. P. Howell, B. Horwitz, A. Jackson, C. Jayne, A. Jirkowski, Warsaw; J. Jopling, H. J. Kere, G. P. Kennedy and R. Kennedy, A. Lady, S. W. Leonard, H. Lobb, Locke Brothers, H. Lockwood and W. Mawson, H. Lote, R. Locely, G. Mackenzie, Magni and Truonceloup, Paris; R. Mallet, Mansell and Elliott, R. M. Marchant, P. J. Margery, W. P. Marshall, D. Mickle, J. Mitchell, J. Montheath, J. Moon, Captain Moorsom, G. Morgan; J. H. Muller, Holland; W. Neibersole, I. W. Newberry, F. B. Newman, C. H. Newton, E. Paraire, T. Procock, J. D. Pemberton, G. Perry, "Q." W. Radley, W. Railton, W. Raitin, W. Reed, Reid and Bateber, S. Reilly, G. B. Reanie, H. Ricardo, W. Riddle, A. J. Robertson, W. Robertson, A. M. Ross, "Rough Draught," H. Rouse, H. H. Russell, Es. Role, G. Sanderson, C. Sanderson, R. Sandeman, W. Scorry, "Sed quit custodiet Custodes," J. R. Sewell, E. Smallwood, J. M. Smith, W. J. Smith, Campbell Smith, Sayer and Warren, F. Sternitz, W. Stewart, M. J. Stutely, H. Suckling, G. Tate, J. Taylor, T. Taylor, J. H. Taunton, D. W. Thomas, R. M. Thompson, P. Thompson, F. Thompson, James Thrupp, H. Turner, "Vulcan," J. Walker, J. W. Warren, H. Whitcombe, G. Wightwick, G. Winkle, G. Wilkinson, S. J. Wilkinson, J. Williams, G. Wilson, R. Wilson, J. G. Wilson, R. Winder, R. A. Withall, F. Wood, and James Wyllson.

It will be seen that none of our leading men have competed.

ON THE PROPRIETY OF THE APPLICATION OF CEMENTS,

OR OTHER ARTIFICIALLY FORMED MATERIALS, TO THE EXTERIORS OF BUILDINGS.

BEFORE I enter upon this difficult and much-vexed question, I wish to state distinctly that wherever I may express an opinion of my own, unsupported by actual observations, I shall do so with great diffidence, and with the full conviction that such opinion may be proved hereafter to be erroneous; because I feel that before the nature of cements or stuccoes can be clearly understood, a larger amount of statistical details, and a much more exact knowledge of the chemical changes which are produced by apparently minute differences in the materials themselves, or in the conditions under which they are applied, than is possessed at present, are absolutely necessary.

Although the practice of covering the exteriors of buildings with some description of plastic materials appears to have prevailed from a very early period, it will, I think, be readily admitted, that in our own age and country this practice has been carried beyond all former precedents. It would be impossible, on an occasion like the present, to enumerate all the reasons which have produced, or have assisted in producing, this result; but perhaps, as among the most prominent of these, I may mention, the cold and humid atmosphere of our northern climate; the impossibility (in many localities) of obtaining, except at a cost too great to be incurred, such materials as will effectually resist the destroying influences of rain and frost; and a growing inclination on

the part of our employers to add something of the beautiful in form to that convenience of arrangement and fitness for the intended purpose, without which the most elaborate productions of our art are really failures, or can at best be deemed but splendid errors.

It is true, that when the practice of employing stuccoes and cements for covering the exteriors of buildings was first adopted, the science of geology had not revealed that valuable page in this great book of nature which has recently attracted so large a measure of study and attention, and that the nature and quality of the materials which compose the crust of our planet are, through the aid of that modern science, better understood by us than they could be by those who were engaged in the art of building before this source of knowledge had been revealed. Yet this additional knowledge, upon a subject so deeply interesting to the architect, has tended to confirm the impression which previously existed, by showing him that in many portions of the United Kingdom no building stone can be obtained capable of effectually excluding moisture, or of resisting, for any lengthened period, the vicissitudes of our climate; and by convincing him that, in order to secure in such cases dry, healthful, warm, and comfortable habitations (especially when buildings are rapidly erected, and occupied immediately after their completion), two things are absolutely necessary, and that a third is exceedingly desirable:—

1stly. That the outer face of all the external walls should have a covering or skin of some material impervious to water.

2ndly. That the moisture from the earth should be prevented from rising into the brick or stonework by the introduction of some water-proof material into all the external and internal walls and partitions, immediately above the ground level.

3rdly. (Where bricks are employed, and a proper amount of careful supervision can be exercised) that the external walls should be hollow, with an air space of 4 or 4½ inches between the external and internal work, excepting at the jambs of the openings and the points of junction with the internal walls.

That the necessity for these, or similar precautions, in the erection of dwelling-houses in exposed situations, is perfectly well known to the elder members of the profession, and that they adopt them in their practice, I entertain no doubt; but as their advantages may not be equally clear to those who have yet to enter upon the practical department of our art, and lest they should imagine that I am speaking theoretically, and not from actual experience, I will mention, that a house was erected about six years ago, in an exposed situation, and on a stiff clay soil; that the carcass was carried up in an unusually wet autumn, and the walls exposed to heavy and continuous rains; that no wall-battening was used in any portion of the building, which was roofed in at the end of December, and completed and inhabited by the end of the following October, at which period it was quite fit for occupation; that there has never been since that time the slightest appearance of damp in any portion of it, from the basement to the roof, nor is the smallest settlement perceivable; and this result is, I believe, mainly, if not entirely, attributable to the adoption of those precautions which I have mentioned as being, in my opinion, essential in nearly all cases, and to one other, which is only important on clay soils, that is, the covering of the whole area occupied by the building with a bed of concrete, which should not be less than six, and need not be more than twelve inches in thickness.

To those who have been accustomed to build only in London, or in other towns and cities, it would, I believe, be quite impossible to convey an adequate idea of the difficulties which must frequently be encountered by those to whom the erection of isolated houses in very exposed situations is entrusted; when, as very frequently happens, no such stone or bricks can be obtained as will effectually resist the rain, and prevent it, when accompanied by heavy gales of wind, from passing through the walls.

I could, if time permitted, mention many remarkable instances of the mechanical force with which the rain is sometimes driven horizontally against the walls of buildings in elevated positions; but I will select one only,

which made a great impression on my mind. During a visit to a large building in course of erection on Black Down (the highest ground, I believe, in North Devon), I observed a portion of a 9-inch partition wall saturated with water. As the building had been roofed in some weeks before, I was a good deal surprised at this appearance; but I had an opportunity, a few days afterwards, of witnessing what explained to me the cause of it; for, being on the spot during a heavy gale of wind and rain, I stood for some time watching the result, and saw the rain passing through a window-opening across 18 feet of space, and striking with great force against the opposite internal wall, and in the course of about an hour making its appearance on the other side.

Very shortly after witnessing this occurrence, I was called upon to examine a church, which had been erected in a similarly-exposed position, through the walls of which (even those of the tower) the rain found admission to the interior in very large quantities. Three or four years having been suffered to elapse, during which this evil was found to be continually increasing, the walls were covered with stucco, of the kind which I shall have hereafter to describe, which proved in that, as it has done in all other cases with which I am acquainted, perfectly effective.

Contenting myself with the remark, that in no single instance have I known the external application of a well-made and carefully-used stucco to fail in accomplishing the desired object, I will proceed to combat those which appear to me to be the strongest of the objections which are advanced against this mode of protecting and adorning the exteriors of our buildings, viz.:—

That cements and stuccoes are not durable, and require frequent and expensive reparations.

That they are very costly; not so much at first, as by reason of the colouring or painting in oil, which it is thought (erroneously I believe) that they afterwards require.

That they are false and deceptive, inasmuch as they, being artificially formed materials, do, in some measure, assume the appearance of natural productions.

That their introduction has led to all that is false in design, and defective in construction.

And that, when employed in decoration, the enrichments are deficient in that sharpness of outline, and delicacy of finish, by which the productions of the chisel are distinguished.

Now, I must readily admit, that a very large proportion of the cement and stucco work which we see in London and its neighbourhood is so faulty in design and defective in execution, that it is difficult to find language strong enough for its condemnation. I know that many of the structures which we see bedizened with what are intended for, and by some, perhaps, are dignified with the name of, decorations are indeed but whited sepulchres. That many of the bricks used in their might, by a strong man's hand, be crushed to powder. That the mortar is composed of earth, dug from the foundations, mixed with a very small quantity of white chalk lime. That the timbers are defective, both in quality and scantling; and, that in short, the whole affair, from the foundation to the roof, comprises all that is miserable in construction, and false in taste.

But I cannot think that these defects are referable to the use of stuccoes and cements, or that by the external application of these materials, structural defects can be successfully concealed. On the contrary, I believe that the cracks and openings produced by the settlement of piers or arches; by the shrinkage of timber, improperly introduced; by the fracture of stone lintels, or other such-like causes, are to the full as conspicuous in a stuccoed building, as in one which is faced with brick or stone, and quite as difficult to repair effectively. Indeed, I feel so strongly the necessity of extreme care being taken in the construction of buildings which are intended to be covered with cement, that I not only turn inverts under all the openings, but frequently omit also the reveal arches and the timber lintels, carrying, instead of them, relieving arches through the whole thickness of the wall. I have never yet seen any cracks or settlements in the walls of buildings thus constructed when carefully stuccoed, and I see no reason why this mode of building should